

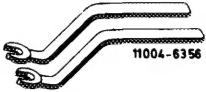
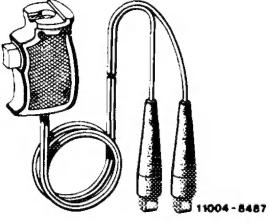
## 05-235 Removal and installation of rocker arms and rocker arm brackets

Valve clearance	engine cold (approx. 20°)	engine hot (60 °C ± 15 °C)
Intake	0.10 <sup>1)</sup>	0.15 <sup>1)</sup>
Exhaust	0.30	0.35

<sup>1)</sup> 0.05 mm greater for steady ambient temperatures below -20 °C.

Tightening torques	Nm	(kpm)
Bolts for cylinder head cover (engine 615)	5	(05)
Nuts for cylinder head cover (engines 615, 616, 617.91)	15	(1.5)
Rocker arm brackets to cylinder head	38	(3.8)

### Special tools

Valve adjusting wrench 14 mm (two)	 11004-6356	615 589 00 01 00
Holding wrench for valve spring cap	 11004-7118	615 589 00 03 00
Socket 27 mm, 1/2" drive to crank engine	 11004-6192	001 589 65 09 00
Remote starter switch for cranking engine (individual component of compression pressure recorder 001 589 46 21 00)	 11004-8487	001 589 46 21 08

### Note

Always put back rocker arms at places from which they have been removed.

Replacing the rocker arms necessitates replacement of camshaft.

If rocker arms are of hard-backed type, replace damaged ones only.

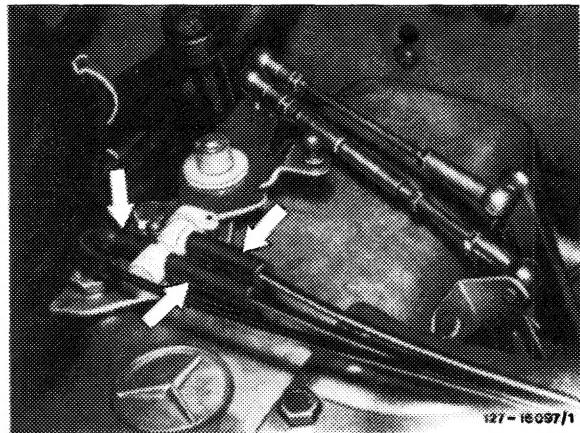
## Removal

### 1 Remove cylinder head cover.

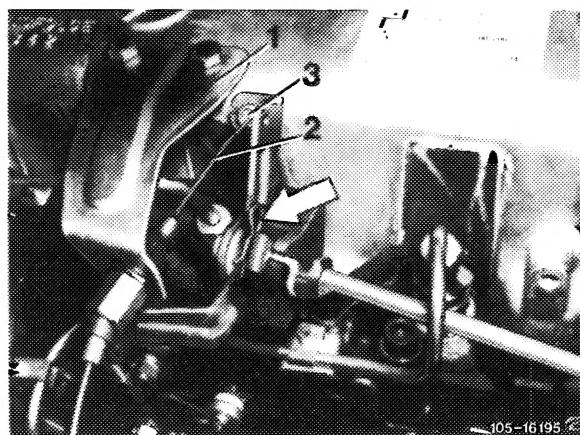
On vehicles with automatic transmissions and vacuum-controlled modulating pressure, additionally disconnect vacuum lines at switch-over valve.

#### Caution:

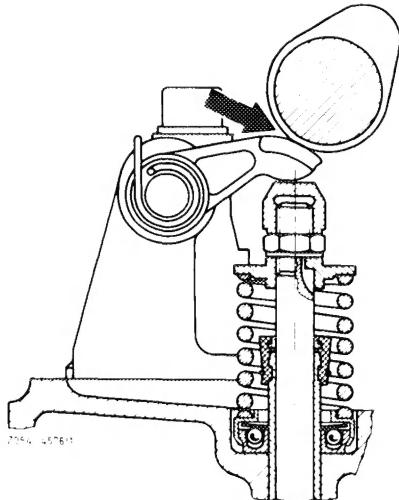
Be sure not to cross vacuum lines. The pipe unions and vacuum lines are color coded.



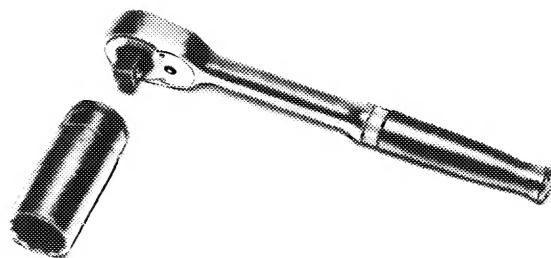
On engines with longitudinal control spindles, detach all control rods. Withdraw retainer (arrow) and force longitudinal control spindle in aft direction. Unscrew bracket (1) and unclip idle control cable (2) with plastic sleeve (3).



### 2 Position camshaft so that rocker arms are free. This means that cam peaks must point away from rocker arms.



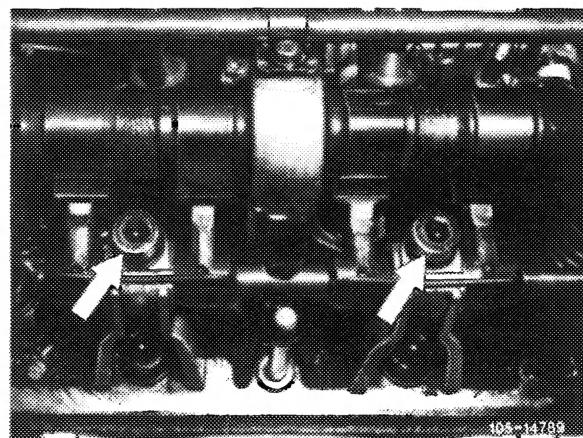
Using tool combination, turn crankshaft for this purpose.



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3 Unscrew bolts holding rocker arm brackets (arrows)

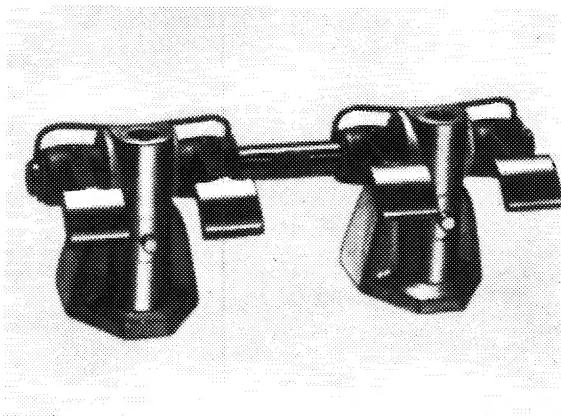
4 Mark rocker arm assemblies to show where they fit on camshaft.



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5 Lift complete rocker arm assembly up and out.

Binding brackets can be released by gently tapping with a plastic-headed hammer.

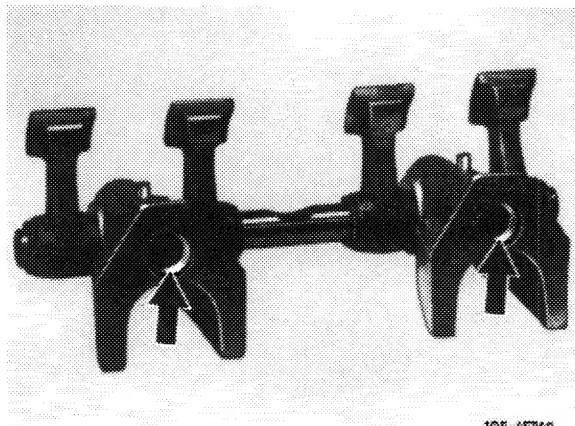


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## Installation

### 6 Position and fasten complete rocker arm assembly.

**Note:** The rocker arm brackets are positioned by locating sleeves (arrows).



### 7 Adjust valve clearance (05-210).

### 8 Fit cylinder head cover.

